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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,824	08/08/2005	Hubertus Maschek	0147-0263PUS1	8789
2292 7590 03/06/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER SCHWARTZ, JORDAN MARC	
			ART UNIT	PAPER NUMBER
			2873	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/06/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/06/2007.

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**Office Action Summary**

Application No.

10/517,824

Applicant(s)

MASCHEK, HUBERTUS

Examiner

Jordan M. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 50-70 is/are pending in the application.
- 4a) Of the above claim(s) 51 and 67-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 50,52,53,55-60,62-65 and 70 is/are rejected.
- 7) ☒ Claim(s) 54,61 and 66 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. PCT/EP03/06281.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Election/Restriction***

Applicant's election with traverse of Group I, claims 50 and 52-66 in the election received December 6, 2006 is acknowledged. The traversal is on the ground(s) that the examiner has not demonstrated that the claims are either independent or distinct and that a serious burden would be on the examiner to examine all claims. This is not found persuasive for the following reasons. As set forth in the restriction requirement, the different groupings of claims are directed to different species of the disclosed invention. Applicant has separate figures and disclosed separate embodiments. The examiner therefore believes that the species restriction requirement is proper. The restriction was made pursuant to PCT rule 13.1 and therefore a serious burden is not required to be demonstrated. Regardless, it would be a serious burden on the examiner to examine all of the claims together. Specifically, the Group I claims require a focusing optical element and a diaphragm, the Group II claims require a light scattering device and a divergent lens and the Group III claims require focusing or scattering light and creating a dark background for absorbing or deflecting light. Each group is directed to different limitations and would require completely separate searches and searching within different search areas. Therefore, it would be a serious burden on the examiner to examine all of the claims together.

For applicant's information, newly presented claim 70 is directed to the invention of Group I and therefore has been included in that Group. Therefore the examiner has considered elected claims 50, 52-66 and 70 herein.

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The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/EP03/06281, filed on June 13, 2003.

### ***Specification***

The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use. The following section headings are preferably used within the specification where appropriate and each of the numbered items should appear in upper case, without underlining or bold type, as section headings.

1. Background of the Invention.
2. Summary of the Invention.
3. Brief Description of the Drawings.
4. Detailed Description of the Preferred Embodiments.

### ***Claim Objections***

Claims 56 and 66 are objected to for the following reasons. Since the intended meaning could be determined from the specification and the Figures, 112 rejections were not made but instead these lack of clarity issues are being raised in the following claim objections.

With respect to claim 56, the claimed "the focusing optical devices" lacks an antecedent basis since only a single focusing optical device had been previously claimed. Apparently the intended meaning is that there are more than one focusing optical device, however, this needs to be claimed with greater

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particularity. It is suggested that applicant claim, "of claim 53, comprising plural focusing optical devices, wherein the focusing optical devices correspond in number..." for additional clarity.

With respect to claim 66, that part of the claim stating "their position" creates a lack of clarity because the word "their" implies more than one aperture. Claim 66 depends from claim 50 which claims just a single aperture. Apparently only a single aperture is intended as a limitation and it is suggested that applicant change this portion of the claim to state "its position".

***Claim Rejections - 35 USC § 112***

Claims 55, 57, 62, and 65 (and dependent claim 63) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 55, that part of the claim stating "wherein the size of the aperture is adjustable" renders the claim vague and indefinite. Specifically, claim 55 is dependent from claims 54 and 53 which claim "plural apertures". It is therefore not clear if the intended meaning is "wherein the size of at least one of said apertures is adjustable" (the assumed meaning for purposes of examination) or "wherein the size of said plural apertures are adjustable".

With respect to claim 57, applicant is claiming "each focusing optical device" and "each diaphragm", however, claim 57 depends from claim 50 which claims just a single focusing optical device and a single diaphragm. It is not clear if the intended meaning is still a single one of each or if applicant is intended to

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claim more than one of each rendering the claim vague and indefinite. For purposes of examination the assumed meaning is “wherein said focusing optical device is an elongate lens and wherein said diaphragm is a slit diaphragm.

With respect to claim 62, the claimed “said light source” lacks an antecedent basis. Apparently the dependency of the claim is incorrect and the intended dependency is not known rendering the claim vague and indefinite. For purposes of examination it is assumed that claim 62 meant to depend from claim 59.

With respect to claim 65, the claimed “the light source is an area or sheet-like and has an opening in the size of the diaphragm or larger” renders the claim vague and indefinite. It is not known meant by “is an area or sheet-like”. Furthermore, the claimed “has an opening in the size of the diaphragm or larger” is not understood. For purposes of examination the assumed meaning is “wherein the light source is in the form of a structure that is sheet-like”.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 50, 52, 57, and 70 rejected under 35 U.S.C. 102(b) as being anticipated by Silhengst et al patent number 6,249,375.

Silhengst reads on these claims by disclosing the limitations therein including the following: a device or method for contrast enhancement for display devices (title, column 1, lines 5-24 re "display" and the abstract, as to the contrast enhancement re "no phantom light is generated"); a focusing optical element including a lens or mirror (Figure 3, element "2", column 3, line 40, column 4, line 55); a diaphragm with at least one aperture (Figure 3, "10", column 4, line 55); a light disposal element for deflecting or absorbing light (Figure 3, the portion of the structure to the left of the diaphragm "3" which includes the housing and wall "4" and the disclosed cavity, and abstract and column 4, lines 11-15 re the wall "4" as light absorbing"); the device arranged so that light is focused and directed through the aperture to the light disposal element for deflecting and absorbing extra light (Figure 3 column 4, lines 11-65, with the light passing through focusing lens "2", diaphragm "10" and extra light being absorbed by the wall of housing "4"). Silhengst further discloses an absorbing cavity arranged behind the diaphragm (Figure 3, column 4, lines 11-15, the portion of the structure to the left of the diaphragm "3" which includes the disclosed cavity and the wall "4" of the cavity as light absorbing"); the focusing optical device as an elongate lens (Figure 3 re lens "2"); and the diaphragm as a slit diaphragm (Figure 3, "10" with the opening as a "slit").

Claims 50, 52-53, 56-57, 59-60, 62-63, 65 and 70 rejected under 35 U.S.C. 102(b) as being anticipated by Takahara et al patent number 6,331,878.

Takahara reads on these claims by disclosing the limitations therein including the following: a device for method for contrast enhancement for display devices (Figure 51, column 1, lines 11-21, column 51, lines 50-55); a focusing optical element including a lens or mirror (Figure 51, column 47, line 11, lenses "519"); a diaphragm with at least one aperture (Figure 51, column 49, lines 7-11, element "516"); a light disposal element for deflecting or absorbing light (Figures 5A and 51, column 12, line 66 to column 13, line 4, element "24" that includes light absorbing structure "51"); the device arranged so that light is focused and directed through the aperture to the light disposal element for deflecting and absorbing extra light (Figure 51). Takahara further discloses an absorbing cavity arranged behind the diaphragm (Figure 51, column 51, line 21, substrate "24" which can be considered as a "cavity"); several diaphragms arranged adjacent to each other directing light to plural apertures (Figure 51, "516" as several diaphragms with several openings); the focusing optical devices corresponding in number to the several diaphragms and arranged in a regular pattern (Figure 51, the plural lenses "519" as the "plural focusing optical devices"); the focusing optical device as an elongate lens (Figure 51, each of the lenses "519" elongate in structure); the diaphragm as a slit diaphragm (Figure 519, each of the openings of "516" as "slits"); a light source arranged between the focusing optical element and diaphragm ((Figure 51, "521A", column 47, line 57); a lens used for the focusing the light emitted from the light source (Figure 51, lens "511A" focuses all of the light including the "emitted light from the light source"); the a display element viewable by a viewer (column 1, lines 11-21); and the light



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source adjacent to the diaphragm and "sheet-like" (Figure 51 with light source "521A adjacent to diaphragm "516 and flat i.e. "sheet-like"). It is believed that the light source will inherently passively reflect light, this being reasonably based upon Figure 51 disclosing additional light entering the lenses "520 which include the light source and therefore the light sources will inherently reflect some of this light.

Claims 50, 52, 57-58, and 70 rejected under 35 U.S.C. 102(e) as being anticipated by Amanai et al publication number 2003/0034935.

Amanai reads on these claims by disclosing the limitations therein including the following: a device or method for contrast enhancement for display devices (abstract, paragraphs 0055 and 0080); a focusing optical element including a lens or mirror (Figure 17, element "57", paragraph 0229); a diaphragm with at least one aperture (Figure 17, element "14", paragraph 0229); a light disposal element for deflecting or absorbing light (Figure 17, element "3" or "4", paragraph 0219); the device arranged so that light is focused and directed through the aperture to the light disposal element for deflecting and absorbing extra light (Figure 17). Amanai further discloses the light disposal element comprising a cavity (Figure 17 in which the interior of each of the prisms "3" or "4" can be considered as "a cavity"); focusing optical device as an elongate lens (Figure 17 re lens "57" disclosed as "elongate"); the diaphragm as a slit diaphragm (Figure 17, "14" with the opening as a "slit"); and the focusing optical element separated from the diaphragm by an adjustable distance (Figure 17, paragraph 0229).

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Claims 50, 57, 59-60 and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Sannohe et al patent number 7,033,030.

Sannohe reads on these claims by disclosing the limitations therein including the following: a device or method for contrast enhancement for display devices (abstract, column 1, line 10); a focusing optical element including a lens or mirror (Figure 1, element "2" or element "4" as the focusing optical element and column 5, lines 51-61 which discloses the mirror as "focusing" and the lens as a "condenser lens" and therefore by condensing light it will inherently provide focusing); a diaphragm with at least one aperture (Figure 1, element "31", column 7, line 35); a light disposal element for deflecting or absorbing light (Figure 1, elements "5" and/or "6", column 8, lines 28-36); the device arranged so that light is focused and directed through the aperture to the light disposal element for deflecting and absorbing extra light (Figure 1). Sannohe further discloses the focusing optical device as an elongate lens (Figure 1, lens "4" disclosed as "elongate"); the diaphragm as a slit diaphragm (Figure 1, "31" with the opening as a "slit"); a light source arranged between the focusing element and diaphragm (Figure 1 will light source "1" between portions of focusing mirror "2" and the diaphragm "31"); a lens used for focusing (Figure 1, "4"); and the light source illuminating a display viewable by a user (column 1, line 10).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amanai et al or Sannohe et al in view of Noguchi et al publication number 2006/0152806.

Amanai and Sannohe disclose as is set forth above but do not specifically disclose the diaphragm as a liquid crystal element. Noguchi teaches that in optical devices using diaphragms for limiting light, that it is desirable to use a liquid crystal element for the purpose of providing an improved means of controlling the amount of light flux (Figures 1 and 21, paragraph 0105-0106). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the light limiting element of either Amanai or Sannohe as a liquid crystal diaphragm element since Noguchi teaches that in optical devices using diaphragms for limiting light, that it is desirable to use a liquid crystal element for the purpose of providing an improved means of controlling the amount of light flux.

***Examiner's Comments***

Nishimae et al patent number 6,724,546 is being cited herein to show another device that would have read on or made obvious a number of the above rejected claims, however, such rejections would have been repetitive.

***Allowable Subject Matter***

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Claims 54, 61 and 66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 55 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with respect to the allowable subject matter, none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with reference to claims 54-55, none of the prior art either alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, the claimed absorbing cavity arranged behind the diaphragm, several diaphragms arranged adjacent to each other directing light to plural apertures, and the diaphragms and/or apertures having different sizes. Specifically, with reference to claim 61, none of the prior art either alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, at least one light source between the focusing optical element and the diaphragm, a lens used for focusing the emitted light from the light source, and the at least one light source arranged beside this focusing lens. Specifically, with reference to claim 66, none of the prior art either

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alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, the angle of incidence of the extraneous light being determined with the aid of sensors to facilitate adjustment of the position of the diaphragm, the size of the aperture and/or its position.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached at (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'J. Schwartz', with a large, stylized loop at the end.

Jordan M. Schwartz

Primary Examiner

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February 28, 2007